



B0520W THRU B0540W

SCHOTTKY BARRIER DIODE

1. Features

SOD-123

- Low Forward Voltage Drop
- Guard Ring Construction for Transient Protection
- High Conductance
- Also Available in Lead Free Version



2. Mechanical Data

- Case:Molded Plastic,SOD-123.
- Epoxy:UL 94V-0 rate flame retardant.
- Terminals:Plated Leads Solderable per MIL-STD-750, Method-2026.
- Marking:B0520W: SC; B0530W: SE; B0540W: SF
- Marking:marked on body.



3. Maximum Ratings

Electrical Characteristics Rating at 25°C ambient temperature unless otherwise specified.

Characteristic	Symbol	Value	Unit
Reverse Voltage	V_R	20	V
		30	V
		40	V
Forward Continuous Current	I_F	500	mA
Non-Repetitive Peak Forward Current $t = 8.3\text{ms}$	I_{FSM}	5.5	A
Power Dissipation	P_D	500	mW
Thermal resistance junction to ambient	$R_{\theta JA}$	200	°C/W
Operating Temperature Range	T_J	-55 to +125	°C
Storage Temperature Range	T_{stg}	-55 to +150	°C

4. Electrical Characteristics ($T_a = 25^\circ\text{C}$ unless otherwise noted)

Parameters	Symbol	Cindition	Min	TYP	Max	Unit
Reverse Breakdown Voltage	$V_{(BR)R}$	$I_R = 250\mu\text{A}$	20	-	-	V
		$I_R = 130\mu\text{A}$	30	-	-	
		$I_R = 20\mu\text{A}$	40	-	-	
Forward Voltage	V_F	$I_F = 0.1\text{A}$	-	-	0.35	V
			-	-	0.375	
		$I_F = 0.5\text{A}$	-	-	0.43	
			-	-	0.43	
			-	-	0.51	
		$I_F = 1\text{A}$	-	-	0.62	
Reverse Current	I_R	$V_R = 10\text{V}$	-	-	75	μA
		$V_R = 15\text{V}$	-	-	20	
		$V_R = 20\text{V}$	-	-	10	
Reverse Current	I_R	$V_R = 20\text{V}$	-	-	250	μA
		$V_R = 30\text{V}$	-	-	130	
		$V_R = 40\text{V}$	-	-	20	
Total Capacitance	C_{tot}	$V_R = 0\text{V}, f = 1\text{MHz}$	-	-	170	pF



5. Rating And Characteristic Curves

Fig.1 Forward Characteristics

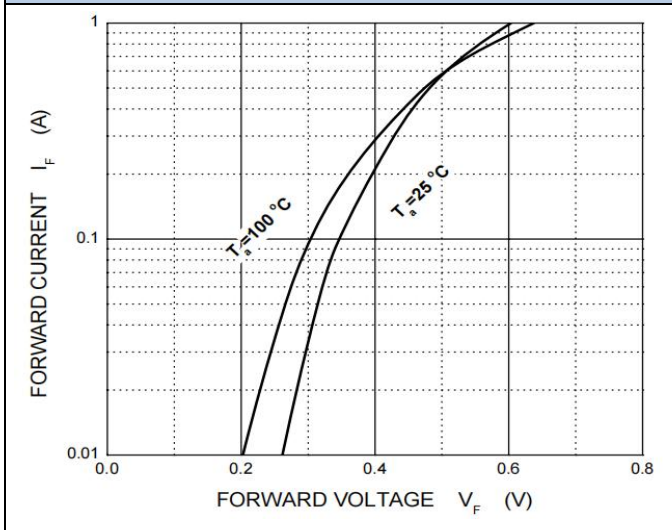


Fig.2 Reverse Characteristics

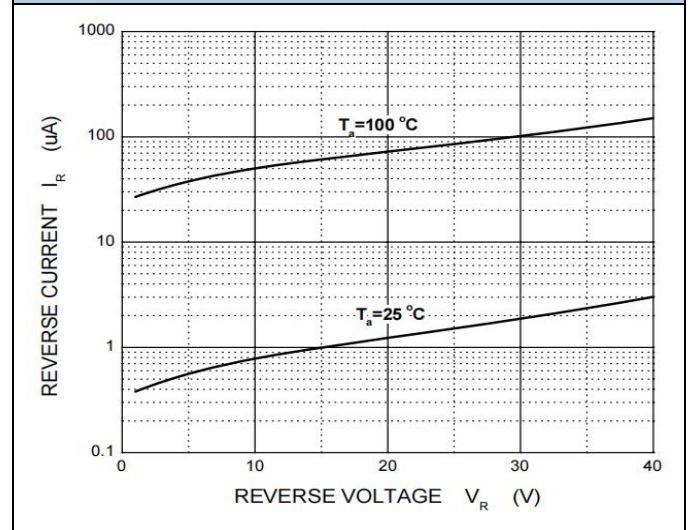


Fig.3 Capacitance Characteristics

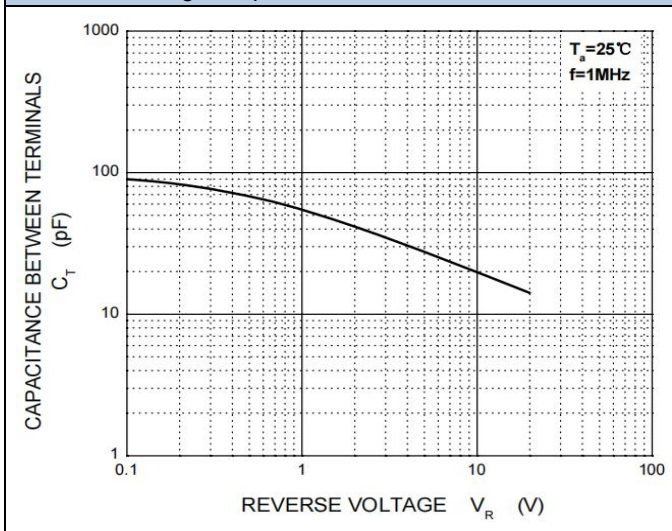
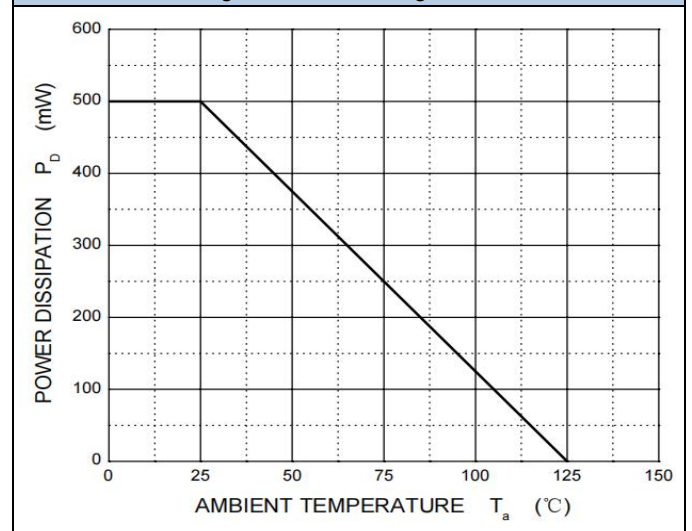


Fig.4 Power Derating Curve

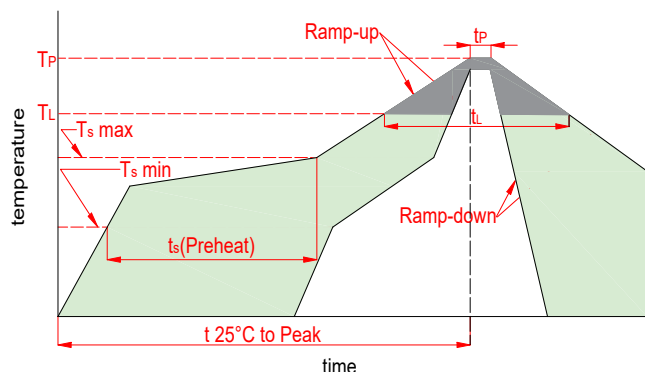




B0520W THRU B0540W

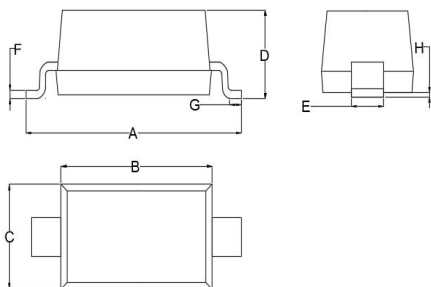
SCHOTTKY BARRIER DIODE

6. Soldering Parameters



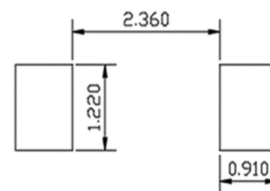
Reflow Condition		Lead-free
Pre Heat	Temp. min(T_s (min))	150°C
	Temp. max(T_s (min))	200°C
	Time(min to max)(t_s)	60~120s
Aver. ramp up rate(Liquidus Temp.)(T_L)to peak		3°C/s max
T_s (max) to T_L -Ramp-up Rate		3°C/s max
Reflow	Temp.(T_L)(Liquidus)	217°C
	Temp.(t_L)(Liquidus)	60~150s
Peak Temp.(T_P)		260 ^{+0/-5} °C
Time within actual peak Temp.(t_p)		30s max
Ramp-down Rate		6°C/s max
Time 25°C to peak Tempe.(T_p)		8 minutes max
Do not exceed		260°C

7. Dimensions

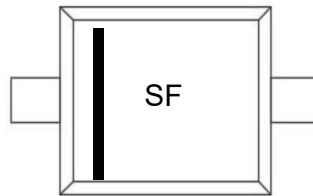
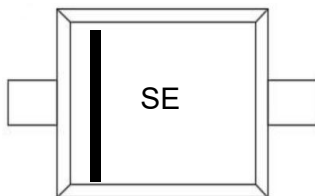
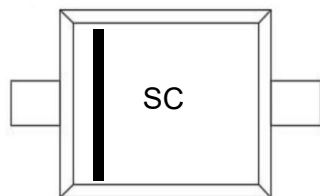


Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.136	0.152	3.450	3.850
B	0.100	0.110	2.550	2.800
C	0.059	0.067	1.500	1.700
D	0.035	0.049	0.900	1.250
E	0.018	0.028	0.450	0.700
F	0.004	0.006	0.090	0.150
G	0.008	0.020	0.200	0.500
H	0.000	0.004	0.010	0.100

Mounting PAD Layout



8. Part Marking System



9. Package Information

Package	Type	Marking	Tape Width (mm)	Quantity(pcs)
SOD-123	B0520W	SC	8	3000
SOD-123	B0530W	SE	8	3000
SOD-123	B0540W	SF	8	3000



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